

*Early ed.*

ONTARIO CRIPPLED CHILDREN'S CENTRE

350 RUMSEY ROAD, TORONTO 17, ONTARIO

R. R. MUTRIE, M.D., C.M.,  
F.R.C.S., Ed. & C., F.A.C.S.  
MEDICAL DIRECTOR AND  
SECRETARY, O.C.C.C. SCHOOL BOARD

MR. DAVID H. MARTIN, C.G.A.  
ADMINISTRATOR

ONTARIO CRIPPLED CHILDREN'S CENTRE SCHOOL

MR. M. STEIN  
CHAIRMAN OF THE BOARD

MR. M. IZZARD, B.Ed., M.A.  
PRINCIPAL

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BLISS PROJECT TEAM

MR. M. IZZARD, B.Ed., M.A.	---	PROJECT DIRECTOR
MRS. SHIRLEY McNAUGHTON, B.A.	---	TEACHER/PROJECT SUPERVISOR
MISS SHERRAN ROBERTSON, B.A.	---	TEACHER
MISS MARCIA NORMAN	---	TEACHER
MRS. ALVA TAYLOR	---	TEACHER AIDE
MRS. BARBARA KATES, M.A.	---	PSYCHOLOGIST
MRS. MARGRIT BEESLEY	---	OCCUPATIONAL THERAPIST
MRS. JUDY SELIGMAN, B.A., D.S.P.A.	---	SPEECH THERAPIST
MR. SCOTT WALDER	---	REHABILITATION ENGINEER

OUR GRATITUDE TO THE BLISS PROJECT TEAM WHO HAVE CONTRIBUTED  
DIRECTLY OR INDIRECTLY TO THIS BROCHURE AND OUR THANKS TO OUR  
ADMINISTRATION, OUR SCHOOL BOARD AND THE DEPARTMENT HEADS  
CONCERNED WHO HAVE SO CO-OPERATIVELY SUPPORTED OUR WORK.





## INTRODUCTION

This brochure has been prepared as a direct consequence to the many enquiries asking for information after the Bliss Project was subject of an article in "Time Magazine".

These enquiries came from three different sources; from parents asking for help, teachers and therapists seeking a way to communicate with handicapped children, and university personnel presently involved in research related to symbols and communication. Basically, all the letters asked for information on the methodology being followed by the Bliss Project Team at the Ontario Crippled Children's Centre and the availability of materials.

Since a major purpose of the research project which is being put into operation in the 1972-73 school year is to demonstrate the effectiveness of the Bliss Symbols as a medium of communication for physically handicapped non-verbal children, as well as to find the most effective methods by which the children can learn the symbols, it is evident that the team is not able to offer its findings yet.

With respect to availability of materials, the team intends to have a basic vocabulary available with the teaching methodology by the end of the present school year.

Over the present year the team will be revising the original set of symbols, re-organizing the grouping and, in conjunction with Mr. Bliss, redesigning some of the symbols which are deemed inappropriate for children or developing new symbols which were not included in the original vocabulary. For this reason the symbols which have been included with this brochure cannot be considered as the definite and final basic vocabulary, but are included to inform you of the point the team has presently reached in its ongoing programme.

The letters which have been received reinforce the belief of the team that a medium of communication is desperately needed for non-verbal physically handicapped children. Whether the Bliss Symbols will fill that need satisfactorily is yet to be proven, but the team hopes that by the end of the present school year it will have sufficient evidence to indicate satisfactorily to what extent these symbols are suitable, under what circumstances, and for which children.

Those of you who wish to use these symbols because you believe you have children who can benefit from them will certainly do so but you should be cognisant of certain constraints.

The symbols have been copyrighted by Mr. Bliss so that any expansion of his system must be authorized by him. If communication through symbols is to be proven a viable concept then it is essential that all those involved should assist in validating and proving unequivocally the value of a system which could otherwise fall into disrepute through incautious and premature general usage. The team, as Mr. Bliss' representative, is willing to co-operate with you and co-ordinate the efforts of those who are prepared to initiate a program and carry it through. They ask only that you exchange information on your progress and findings with the team at the Ontario Crippled Children's Centre.





A number of the letters received indicated that the writers wished to use the system with a wide variety of disabilities. At this time the team has worked only with physically handicapped non-verbal children and because this is still an area of research they are not yet prepared to say that Bliss Symbols are a proven medium of communication for these children. There are other areas of disability in which the team wish to initiate research, but only after the symbolic approach is proven. Due to the incomplete stage of knowledge regarding symbolic communication at this time, the team would advise caution at introducing symbols to other areas of communicative disabilities. The symbols could prove to be inappropriate for children who are unable to speak for emotional or physiological reasons differing from those which prevent the cerebral palsy child from speaking.

The amount of intensive group effort, close co-operation, willingness to share ideas and accept criticism which has been an integral and necessary part of the team's operation in the development of this programme also causes them to have some reservation about the degrees of success which are likely to occur through one person being solely responsible for the instruction. Bliss Symbols are neither a toy nor game but are being developed as a specific instructional medium for physically handicapped children. While for some children with reasonable hand control, a rehabilitation engineer may not be essential, a teacher and therapist certainly need to work closely together in preparing the child and in his initial instruction. It is also a considerable advantage to have the services of a sensitive psychologist to be available to constantly assess the child's performance. The extension of this is that the more intensively involved the child or the group being instructed, the more essential it is to have the full team constantly available. In short, in the developmental stages, the Bliss approach is neither a cheap medium of instruction nor a simple panacea for all physically handicapped children who have communication difficulties.

The present situation here at the Ontario Crippled Children's Centre has been best described by Dr. John Whittaker, Medical Officer in charge of Out-Patients:

"USE OF THIS SYMBOLIC LANGUAGE IS IN ITS INFANCY. EARLY ENTHUSIASM MUST BE TEMPERED WITH EXPERIENCE. THIS IS NOT A CURE FOR AN INCURABLE DISEASE. FALSE HOPES MUST NOT BE ENGENDERED."

The information which follows has been prepared by those members of the team whose contributions would answer, as far as is possible at the present time, most of the questions which have been asked of the Bliss programme.

In conclusion to this introduction the team would like to pay a brief tribute to the man whose work has made this programme possible.

Charles K. Bliss, B.Sc., who now resides in Sydney, Australia, was originally an engineer in Germany. He became determined to create an international language which would permit all men to communicate, which would eliminate misunderstanding and which would not depend on finding a substitute for their mother tongue such as Esperanto. After many years of work his scheme was published but it was ignored by the world. At the same time as the team here at the Centre discovered his system and applied it, they entered into correspondence with Mr. Bliss. In May, 1972, he mortgaged his source of income, his boarding house, and flew to Toronto to work with the team.

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Working with this 76 year old man was an experience none of those who had the privilege will ever forget. His energy, ebullience, constant good humour and obvious enjoyment of life not only inspired the team but made them conscious of their very real responsibility to bring this man's dreams to fruition, to honour his singlemindedness, and to support the tremendous effort that he has made through a large part of his life to have his symbols accepted. At this time the team cannot be certain of the extent of its success but they are agreed that the work of Charles Bliss deserves their full support in its application to handicapped children.

### BACKGROUND

The Ontario Crippled Children's Centre was opened in 1962 as a Rehabilitation Hospital for those children in the province of Ontario who could profit from such a service. It offered full rehabilitative support in the form of therapy, rehabilitation engineering, social service, psychology, appropriate medical specialization and education. In the latter respect it was the first rehabilitation centre in Canada to offer educational facilities to all children regardless of their handicap from nursery age to grade 13. Both the Centre and its School are non-profit operations, with the School being funded totally by grants from the Ministry of Education and a per diem rate charged against the School Boards whose children are being educated in the School. While this form of funding does not preclude experimental research, it does demand that such research can be contained within a regular school operation and can be ethically justified by the staff involved as part of the regular programme. When research would appear to benefit from support which cannot be included within the budgetary requirements for normal school operation then financial grants must be requested from other sources.

During the formative year of the Bliss Project all expenditures could be properly met by the several disciplines concerned as regular operational costs. Once the accumulation of evidence indicated that the Bliss Symbols deserved consideration as a research project within the School programme, an analysis of the support required showed that this could not be covered or justified within the operating budgets of the several departments concerned in the Centre. Steps were taken to acquire grants so that for the present year the project is covered by an award of \$20,000 from the Ministry of Education of the province of Ontario, sponsored by the Ontario Institute for Studies in Education, a grant of \$5,000 from the Board of Trustees of the Ontario Crippled Children's Centre plus \$12,451 from the Ontario Society for Crippled Children. The total monies from these sources are to be used for the employment of engineering services, a linguist, consultants and any other support staff who may be necessary. Other money from these funds will be devoted to research materials needed to manufacture the communication equipment required by the children in the project.

Because so much of the rehabilitation process for the children attending the Centre is within the field of communication in its broadest sense, a committee has been established to evaluate and approve all projects and programmes which are deemed to come under this heading. The Medical Director approved the recommendation of this committee that the Bliss team be established with the school principal as the project director.





The team was to consist of the teachers working in this programme, a psychologist, and a linguist. The occupational therapist, speech therapist and rehabilitation engineer who had worked closely with the programme in its formative period were retained as resource personnel because of their expertise and experience in the field of communication.

The experience of the team suggests that the appropriate staffing for a research project such as this for two groups of six children during the first year would be:

Half time project director

Half time psychologist

Half time psychometrician

Full time linguistic specialist with research  
and statistical knowledge

One and a half teacher aides

Half time secretary

Two and a half teachers  
(one of these to be half time programme supervisor)

Two full time rehabilitation engineers

Full time occupational/physio therapist  
experienced in cerebral palsy treatment

Full time speech therapist

Half time occupational therapist  
(a specialist in communication devices)

Due to the many other staff responsibilities of the departments involved in the project, the total team at the present time has had to be:

Part time project director (combined with principal's duties)

Part time psychologist  
(combined with School psychologist duties)

Full time linguistic specialist (yet to be appointed)

Teacher aide

Two and a half teachers  
(including one half time programme supervisor)

Equivalent services of one and a half rehabilitation engineers

Part time occupational therapist (combined with other duties)

Part time speech therapist (combined with other therapy duties)





It is expected that this will be a three year project so that additional funding must be found for the next two years and the staffing needs will be dependent on the experience and success of this year. It is believed that an additional class should be added for the coming year in order to introduce symbols to them through a programme which would apply the techniques and methodologies which are to be formulated during the present year.

While it is still too early to draw conclusions based on empirical evidence, the team is able to offer some observations and to comment tentatively on some trends which would seem to be appearing.

We do not claim that all physically handicapped non-verbal children can benefit from the Bliss Symbol approach. Whether they can be helped with other approaches is yet to be considered. It may well be that from this project assessment criteria will be established to gauge the suitability of candidates for the Bliss Symbol programme.

At this time it would seem that some children will learn only a limited number of symbols; this will give them a greater communicative competence for their immediate environment than they had without the symbols. This is to be expected since the individual learning capacity of each child will regulate the number of symbols used effectively.

All the children are using symbols as a substitute for verbal communication. For those children capable of learning to read regular print, symbols are acting as a valuable tool in the learning process. It is hoped that these children will progress to typing as a second form of communication.

Now that a simple and immediate communication medium is available to them, some of the children would seem to be less overly conscious of their vocal mechanisms and are producing more nearly recognizable speech patterns. This statement must not be interpreted as meaning either that the children are now speaking fluently or that they are learning to speak through the Bliss Symbol approach. Considering the degree of physical involvement of the children it would be extremely unwise to consider this as more than an observation or possible tangential side effect for some children.

Should it be proven by the end of the year that within reasonable limits and under certain conditions, Bliss Symbols are a suitable medium for communication and instruction, then the programme will be extended to consider those following aspects which seem appropriate at that time and which can be funded.

These areas of exploration listed have been tabulated under the discipline likely to be primarily responsible, but the team's operation is such that it is expected contributions will be made to all areas by any of the disciplines involved who have something to offer.

1. Further exploration by the rehabilitation engineers in the areas of:

- (a) Increasing the symbol vocabulary that can be displayed
- (b) More sophisticated display units
- (c) A master unit which will permit the children to initiate and carry on conversations with one another





- (d) Interface units
  - (e) Associating electric typewriters with symbol usage
2. Investigation by the psychologist for the purpose of:
    - (a) Finding and, where necessary, modifying recognized evaluative measures so that they are valid and reliable for these children, for the purpose of selecting suitable candidates for this form of instruction and assessing their progress
  3. Evaluation of the present symbols system by a linguist to find:
    - (a) Whether the English language syntax is the most appropriate one for these children or whether there is another which offers more flexibility, which is simpler for them to learn and which offers faster and more extensive communication
    - (b) On the basis of Charles Bliss' work, can a symbol language be developed which is more child oriented
    - (c) Alternate symbol arrangements and structure on the symbol tray
  4. Exploration and experimentation by the teachers in methodologies of teaching symbols in an attempt to find a generally acceptable structure and sequence in the learning pattern.

#### PSYCHOLOGICAL CONSIDERATIONS

Barbara Kates

Verbal communication enables one to express consent and dissent, needs, emotions, questions, ideas. Because of the extensiveness of the functions which communication fills, the desire to communicate becomes strong at an early age. When a young child is severely handicapped to the extent that he cannot speak in a functional way, a frustrating situation exists both for the child and also for those with whom he tries to communicate. Out of desperation the child frequently devises alternate means to express his needs. These systems of gestures or grunts may include behaviour such as sticking out his tongue, wetting his pants, which often are socially unacceptable and understandable in a haphazard way to only his immediate family. If these children are, in fact, admitted to school, in a group classroom situation, generally they either become behaviour problems or withdrawn. Early communication can provide the mechanisms to release frustration and also provide the reward necessary to motivate continued communication. Up to age five or six, language skills are developing as part of the child's total development. After this age, language increasingly becomes a medium for developing higher intellectual functions.

Impressions formed of another individual depend greatly on his expressive behaviour. Because the severely involved child without speech cannot initiate conversation and cannot, for the most part, express himself to others, he generally presents the image of a dull or retarded child. Strangers watching this same child using symbols have been heard to casually comment that this child is bright. Because others think he is bright, he is treated differently.



They have higher expectations of him, and provide him with greater stimulation. This improves the child's own self-image.

As a member of the Communication Team, the psychologist has been involved in developing the vocabulary for the symbol trays, in the screening assessment of the children acceptable to the program, and in developing a method of ongoing evaluation for the program.

Criteria for acceptance into the Bliss Project which the psychologist considered are learning ability, communicative skills, chronological age, motivation to learn. Standardized tests, observation and school reports were used to assess these factors.

The proposed model (Appendix A) is a simplification of a preliminary conceptualization of symbols as a substitute for expressive speech. Symbols are seen as a by-pass for speech in the sequence of normal development which moves from receptive language to expressive language to reading and writing. Symbol usage is a pre-reading skill to capitalize on the child's desire to communicate prior to developing reading and writing skills. Even when these latter skills are developed, symbols might still be the most expedient means of informal communication for the child. Expressive language, in the form of either speech or symbols, presents certain contributions in the development of the child. Communication ability, thinking ability, language development, the image presented to others, and reading level are those aspects of the child's development which will be assessed at the beginning and end of the school year 1972-73 in order to assess the effects of the Bliss Project on the children. These aspects will be assessed through standardized tests, as well as by rating scales and recording sheets whose designs are based on preliminary assessment tools which were investigated during the 1971-72 school term. In addition, observational data will be kept to assess changes in some of the other functions, e.g., in frustration, in motivation to be involved in activities.

#### FROM THE SPEECH PATHOLOGIST'S VIEWPOINT

Judy Seligman

The speech pathologist or speech therapist is concerned with the speech and language development of the physically handicapped child. Considering for the moment only the speech behaviour of the child, it is possible in most instances, through an intensive therapy programme, to assist the child to obtain functional, intelligible speech. However, for a small number of children, particularly those with cerebral palsy, the degree of physical involvement of the speech mechanisms is such that the child is unable to achieve speech which is sufficiently useful for him in any practical sense. This inability to develop functional speech habits is of extreme concern to the speech pathologist since it deprives the child of a fundamental tool of communication and prevents him from engaging in inter-personal relationships in their most commonly accepted form, i.e., talking. The lack of functional speech has numerous other consequences which are of concern as well, in that it often hinders a child in his development of language concepts and conceptualized thinking and creates severe feelings of frustration within the child. It was to meet the needs of the child who is unable to develop sufficient functional speech due to severe physical involvement of the speech mechanisms that the present system of communication has been developed. The Bliss Symbols are regarded as an alternate method of communication, adapted as a substitute for speech for the physically handicapped child.





Use of the Bliss Symbol approach to communication implies that the child's visual, auditory and intellectual skills are intact. This is not to say that the system cannot be used with such populations as the mentally retarded or the multiply handicapped. However, other approaches to its presentation will have to be developed, specific to the needs of these groups and, at the present stage of development of the programme, such endeavours are premature. It would be hoped that in the future, once a complete syllabus for teaching Bliss Symbols has been prepared, adaptations will be made to render the system suitable for populations with problems such as mental retardation, aphasia, auditory and/or visual perceptual disorders and even autism.

The speech pathologist has been involved in the development of the Bliss Symbol programme as one of five members of a multi-disciplinary team. Within this framework the speech pathologist has participated in the establishment of criteria and selection of children for the programme and in the assessment of the language skills of the children, both initially and, in the future, as an ongoing measure throughout the period of the child's participation in the programme. The speech pathologist has contributed to the development of the symbol vocabulary, has acted as a consultant in the areas of speech and language behaviour, and generally has participated as an active member within the team of professionals in the development of the programme. Many of the children, in addition to learning the symbols, have received individual speech therapy on a regular basis.

From a speech pathologist's point of view, the results of the Bliss Symbol programme have been most encouraging and exciting. The children have demonstrated that the symbols can be learned rapidly and simply. They are using the symbols not only to respond to questioning by the teacher but also as a vehicle for asking their own questions and for relating to one another. Their performances have yielded evidence of the development of conceptualized thinking and inner language. Also of particular interest to the speech pathologist has been the finding that almost all of the children who have been involved during the first year of the programme have begun to produce words verbally while using symbols. It would appear that as the need and pressure on the child for speech production is decreased, so also is the tension in the oral musculature decreased and thus the child is able to verbalize more readily. While it should not be concluded that speech will develop sufficiently to be of functional use to these children, this behaviour is of course being encouraged and reinforced.

As exciting as the above findings may appear, it must, however, be recognized that the Bliss Symbol programme is still in its developmental stages. It is anticipated that during the forthcoming year much additional information will be obtained from ongoing presentation of the symbols to the children and that at the end of the year an extensive objective evaluation of the programme will be undertaken.

#### ROLE OF THE OCCUPATIONAL THERAPIST

Margrit Beesley

The initial role of the occupational therapist in a programme of this nature, which to date has been highly experimental, is to evaluate the child's physical capabilities. Each child has functional limitations and the trained occupational therapist must be quick to recognize these limitations.





Our experiences during the 1971-72 period impressed upon us the importance of observation and evaluation.

In treating the handicapped child, who has little or no understandable speech response, and limitations in physical movement, we found that the child will be more responsive if he has a display media placed directly in front of him. This allows him both visual and physical control.

The child should be observed in order to evaluate the following requirements:

#### Seating

Continuing attention and response from the child will not be achieved if he is not comfortable. It may be necessary to modify wheelchairs or design special chairs for the child.

#### Vision

The seating arrangement must permit the child to have visual control of his display media and the teaching area.

#### Function

One must observe and evaluate each child as an individual and make use of any physical movement or controls he has available to him. We found that making use of the hands, even when they seem to be very involved, has many advantages. This could lead to feeding, school activities, etc., and would be socially more acceptable as the child grows older.

#### Be Prepared to Experiment

Adjustments in seating often improve both visual and functional control. Positioning of the display media (tray) in front of the child will improve visual and functional control.

The display media must be fitted to the individual child. At this stage our experiment has proven that we do not have a standard method. We have a standard which is as variable as each child.

The occupational therapist must be experienced in evaluation of the child, and observe his response to the display media.

Even the most basic display media is useless if the child is uncomfortable before it, cannot see it, and cannot function with it.

The time spent in observation and evaluation is often the difference between success or failure. Failure is not the fault of the child.

#### EDUCATIONAL PROGRAMME

Shirley McNaughton

The educator's desire to participate in the O.C.C.C. Communication programme grew out of many experiences of witnessing the frustration - and often apathy - of children who lacked functional speech. Opportunities to participate in classroom activities were always arranged for these children by the sensitive



teacher, but it was never possible to enable them to communicate their ideas in the manner of the speaking child.

Following early discussions with the team occupational therapist, the following educational framework emerged. The task was to create a way for the child to communicate in all social situations. Equipment must be inexpensive and portable. The child must be able to express ideas, not merely physical needs. In order to express his ideas the child must:

1. Be stimulated to want to communicate. Thus we must arrange for his early success to ensure his effort to progress.
2. The child must have something to communicate. We must provide experiences, frequently individual ones, about which he would wish to inform others.
3. He must be able to present his output in an organized way so that it could be meaningful to others. We must provide a structure for his output.
4. He must have a vehicle for expression. We must provide him with visual symbols, organized to be compatible with a child's language expression.

It was recognized that the following considerations would have to be kept in mind:

1. The specialized language output required by physically handicapped children due to their particular life-style.
2. The necessity of keeping the communication symbols closely related to the speech of non-physically handicapped children.
3. The need for symbols to match the different levels of language development of the individual child.
4. Recognition that some of the children might never be successful in learning to read or to communicate with written word; nonetheless their need to communicate remained.

After considering several symbol possibilities, and after attempting to devise symbols of our own, the book - Semantography (Blissymbolics) - of Charles K. Bliss was discovered. It was decided by the then fully constituted Communication Team that the Bliss Symbols offered the best method of expression for our children. The simplicity, logic, and capacity for combination offered by these symbols had, we thought, excellent potential.

The objective of our programme, as stated to parents, October 8, 1971, was as follows:

"Through a teacher-therapist team working daily with a small group, to make it possible for each child to use a picture-symbol vocabulary, which will serve as a supplement to speech, as a substitute for speech, or as a temporary aid to enlarge the child's inter-personal communication capabilities during the period when his speech is still developing."





The programme began with fourteen children, divided into three groups which met for thirty minute daily periods. The children were selected from O.C.C.C. classrooms on the basis of their inability to use speech functionally in their school situation. Chronologically, they ranged from four to nine years of age. Initially, the children were grouped by academic level but, as the number decreased, the children were regrouped on the basis of the rate at which they were learning symbols. Three children were withdrawn from the programme as a result of discharge from O.C.C.C.; two children were withdrawn because their speech capability proved to be more adequate than had formerly been evident in their classrooms; three children were transferred to another programme because of the difficulty which they displayed in responding to visual stimuli. The latter three children, whose mental ages were assessed at three years and under, participated in a pre-symbol programme until Christmas in which they related their play experiences to picture representations of these experiences. It was decided in December, 1971, that this programme would have to be discontinued in order to concentrate for the remainder of the school year upon the six remaining children, who had demonstrated the ability to learn symbols. Early preparation for symbol use remains an area requiring investigation and study in the future.

The six children who remained in the symbol classes ranged in chronological ages from four and a half to nine years of age. They ranged in estimated intelligence from educable retarded to above average. The first symbols to be introduced were hello and goodbye, man and lady, big and little, then yes and no. Songs and games accompanied the learning of these early symbols. In the first six week period, twentyone symbols had been introduced, and a lesson procedure had been developed. The length of time spent upon drill and review (through music and games) in relation to the time spent in discussion varied according to group need, and the level of difficulty of the symbol. The more representative and concrete symbols such as those for man, house, eye, mouth, were more easily learned than those such as opposite, to make action, to understand. Through extra practice being given to the more difficult symbols, the symbols which were introduced in each class were assimilated successfully by the children. Throughout each lesson the children's responses were written on the overhead projector, to enable each child to see the response of others and to enable the children to see left-right directioning and the sequencing of the symbols.

The manner in which different children utilized the symbols presented wide variation. Different levels of symbol use emerged. One student remained at the level of symbol recognition. She could indicate, although often with difficulty, the symbols requested, but rarely utilized symbols to initiate ideas. She had difficulty with visual discrimination of similar symbols and with remembering the location of symbols from day to day. Speech, for her, became an increasingly effective method of communication and it was decided to discontinue her participation in the symbol programme at the end of the first year. Had she needed to continue with symbols, her learning programme would have been planned to include many spatial and tactile experiences to attempt to assist her in locating and remembering the symbols. Simple sentence structure was the next level of symbol use; this was utilized by two students. "I (me) happy", "I want mommy", "I like school", are examples of this level. The next level, which was attained by three of the students, was that at which several symbols (up to seven) were used to express a complex idea, leaving the interpretation to the "listener". Several examples follow:

1. teacher street funny to think to see bus me.
2. pain legs please shoe the opposite of on





3. I (me) bus broken morning sad
4. mommy to want yes teacher to talk

During the 1971-72 school year, the children worked first with a vocabulary of individual symbols which was steadily increased to total approximately forty. The need for further extension of the number of symbols led to the concept of multi-symbols. A hundred-symbol vocabulary was organized in which even a child with gross motor control could indicate a multi-symbol of ten symbols and, through use of a large colour code, could specify which of the ten symbols he wished to use. An electric pointer later enabled this child to point more exactly and eliminated the need for this particular colour code. The order of presentation of early symbols was planned by the teacher but, once the children obtained their 100-symbol displays, new symbols were included in their working vocabularies at the children's requests. In their eagerness to expand their communication potential, new symbols were excitedly pointed to each day - their meaning being requested by the child pointing to the symbol for "what" followed by the new symbol. Once the children were at this stage, extension of symbol vocabulary became much more rapid. By June, 1972, after approximately sixtyfive hours of instruction, the numbers of symbols being used by the six children were 140, 140, 100, 42, 38, and 38.

As the year neared completion, an increase in inter-peer communication became evident amongst the children of the more advanced class. They began to tease each other, argue, ask questions, and even threaten to "tell mommy on each other"!

Throughout the year, parents, classroom teachers, and O.C.C.C. staff working with the children, were kept informed of symbol progress through a weekly parent newsletter. New symbols, their derivation, and classroom activities were described. For one child who had difficulty retaining symbols from Friday to Monday during the fall term, homework sheets were initiated. Improvement in retention was immediately noted. During the winter term, three of the children began taking their symbol trays home for weekends and holidays, much to the satisfaction and delight of their families. Home use of symbols was not introduced in the case of the other three children due to equipment difficulties, improvement of speech, and parental preference to work only on speech development within the home setting.

In the first year exploratory symbol programme, several aspects were considered significant:

1. The speed with which the children learned the meaning of the symbols.
2. The manner in which the children used a series of symbols to express complex ideas.
3. Inter-peer communication potential.
4. The discovery that once a communication vehicle was provided and ability in utilizing it was achieved, each child had a wealth of ideas to express and questions to ask. In fact, the teacher found that there was little time or need for the stimulation of symbol conversation instigated by teacher-planned experiences!



5. The immediate and intrinsic reinforcement value of symbols. Through indicating a symbol, the child transmitted his idea to another person; the successful communication became its own reward and motivated the child to continue learning and using an ever-increasing number of symbols. During this first year such learning often required extreme patience and perseverance due to the developmental, and thus not always efficient, nature of the equipment.
6. The different levels at which the symbols were being used. This appeared to indicate that the symbols could match individual levels of language development.

By June the team was satisfied that visual symbols could become an effective substitute vehicle for children's language expression and that Bliss Symbols offered many valuable qualities. They could be displayed well, learned easily, and appeared to communicate that which the child wished to say. It was recognized, however, that one area required concentrated attention in the second year. The children's method of presenting a long series of symbols had made possible a wide range of interpretations. Development of a structure which would enable the child to communicate in an organized meaningful way became essential. Provision of equipment to facilitate inter-peer communication was yet another challenge for the second year.

The 340-symbol vocabulary (Appendix B) and the revised 100-symbol vocabulary (Appendix C) have been selected with reference to the primary child's language needs. The number and organization of the symbols have been directed by the specifications of the electronic equipment being developed by the rehabilitation engineering department. Although this electronic equipment will not be ready in its finished form for use by the 1972-73 Bliss Project classes, its future potential for them must guide our work in the classroom. The ultimate number of symbols to be displayed on the electronic board will be 340; this vocabulary in its manual display has been utilized in the 1972-73 programme by the children able to point to this number of symbols. The 100-symbol vocabulary, which can be displayed on a circular electric tray and which is a preparatory vocabulary, is being used by children unable to point to a manual display of symbols and thus requiring an electric pointer and by children not intellectually ready to be exposed to the wider vocabulary.

The 1972-73 symbol programme, known as the Bliss Project, has been extended to include twelve children in two all day classes. Three teachers are involved in introducing symbols to children new to the programme and in developing methods of teaching strategies related to symbol use to the experienced children. Attention is being given to ways of combining symbols to gain extended meaning, and to the importance of order in the presentation of symbols to ensure clarity of meaning. Symbol usage is being demonstrated in a lab classroom setting and is being related to the child's total learning programme, with particular emphasis being given to integrating symbols with reading and mathematics instruction. One group of children are working with the 340-symbol display; the other group are working with the 100-symbol display.

The two symbol vocabularies represent preliminary organizations of the symbols. Although they were arrived at through many hours of planning by the O.C.C.C. Communication Team alone, and in conjunction with Mr. Bliss during his visit to O.C.C.C. in May, 1972, it is anticipated, indeed it is known, that many revisions will be necessary. From early experiences with these displays,





inconsistencies have already been discovered. It is necessary, however, to work with them in the 1972-73 classes to fully realize their potential and shortcomings.

To introduce the child gradually to the logic of the symbol system, single symbols can be introduced first, e.g., man, lady, person (does not appear in the symbol displays, but can be demonstrated by removing numerals from I and you symbols), animal, house. One exception to this procedure could be the hello/goodbye symbol which could be introduced early as a unit, its derivation to be explained upon its presentation. Next, an example of a combined symbol could be introduced. "Take the roof of the house and put it over the man; now you have the man of the house, the man who protects - daddy." Mother could be developed in the same way. The manner in which I, "the most important person, number 1 person", and you, "number 2 person", are constructed could be similarly demonstrated.

"Feelings" are an important set of symbols to introduce at an early stage. The single symbol of the heart to denote how people feel can be discussed and then the use of arrows and other symbols to indicate happiness ("look up"), sadness ("look down"), anger, fear, etc., can be demonstrated.

The "Question" multi-symbol is also an important set of symbols to teach early. Ample practice with the question-answer concept needs to be given before gradually moving into the types of questions - each one of which is a combined symbol, the derivation of which can be found in the symbol dictionary, soon to be available.

The function of the to make action symbol can best be taught following the learning of the body parts. Relating action of the eye to seeing, action of the ear to hearing, etc., has made this concept easy for the children to grasp.

Symbols to which special attention need be given are:

1. Use of the inverted action symbol to change symbols to descriptive form.
2. Use of symbol for much/many over other symbols to give plural.
3. The three positions needed to distinguish between with, and, belongs to.
4. Use of belongs to to form possessive.
5. Use of past and future to indicate tense of verbs.
6. Opposite.
7. Similar to.

In September, 1972, a basic vocabulary of thirty symbols was gradually introduced to the new children (see Appendix D). As soon as each child was familiar with its use, he was given the opportunity to extend his vocabulary at his own rate, influenced by personal interests and experiences, working with either the 100 or 340-symbol display. From experience both years, it appears that a large number of symbols can be retained if they are meaningful to the child and if sufficient opportunity for practice is given.



The colouring on the present displays has been introduced to help the child locate symbols quickly. The colouring cannot be used as a code to classify the symbols precisely due to technical restrictions involved with the use of colouring on the future electronic display. As new symbols are introduced, the child's attention can be drawn to the symbol's colour location, e.g., "Here's the man. It's yellow. You can find it close to all the other people." Colour chart appears in Appendix B1.

A caution must be made with regard to the drawing of symbols. Exactness of size and position is very important to the accuracy of meaning. If symbols are to be drawn for teaching purposes, it would be helpful to refer to Appendix E, pages 1 - 3, for instructions.

The remarks in the foregoing educational comment have been based upon the observations of a teacher who has been privileged to share the experiences of children utilizing language in a brand new way, some expressing their own ideas for the first time. In the words of Dr. J. Whittaker, O.C.C.C. Out-Patient Medical Officer:

"CHILDREN WHOSE WORLDS HAVE BEEN ENCLOSED BY DOORS NOT OF THEIR OWN MAKING, HAVE FOUND A KEY TO OPEN THESE DOORS, WHICH LEAD THEM INTO A WORLD OF DELIGHTS FORMERLY DENIED THEM."

The first year was very rewarding and exciting! Much time has had to be devoted to keeping up with, and reacting to, the rapid progress of the children. There has been little time for an "over-view"! For the second year, the sensitive observation and the teaching skills of two new teachers have been added to the Bliss Project. Their contribution to its development will enable us to further expand our knowledge. Teaching information has been given in this brochure in the hope that those wishing to try the symbol vocabularies will use some of the teaching suggestions as guides and will then share their successes, difficulties, and new discoveries with the Bliss Project Team. It is hoped that through combining the experiences of all those using the symbol vocabularies, a well-tested system of visual communication for children will someday be perfected.





## APPENDIX B1

### COLOUR REFERENCE GUIDE FOR 340-SYMBOL DISPLAY

	1	2	3	4
A				
B				
C				
D				
E				
F				
G				
H				
I				

Within each multi-syn  
(Group of 10 Symbols  
separated by heavy 1  
the individual symbo  
are numbered:

1	2	3	4
6	7	8	9

#### Explanation

Consider the above symbol sheet from top left-hand corner being:

Across A1 to A4 - From same position vertical columns B, C, D, E to I

The colours are an aid to finding symbols, not a means of categorizing them

E2 is used for colours as well as numerals. Colour borders in following ma

0 - green; 1 - white; 2 - blue; 3 - orange; 4 - brown;

5 - yellow; 6 - purple; 7 - pink; 8 - gray; 9 - red.

Green.....actions - verbs - "go" colour - A1 symbols 6 to 10, B3, B4

Blue.....words which describe - adjectives - C3, C4, D1, D2

Oranges and Yellows...things - nouns

Dark Yellow.....people - A4, B1, B2

Mustard Yellow...places and things that take you there - F2, F3, F4

Light Yellow.....nature, universe, weather - H2, H3, H4

Light Orange.....things close to a person - 1. things one needs - C2

2. things one wears - F1

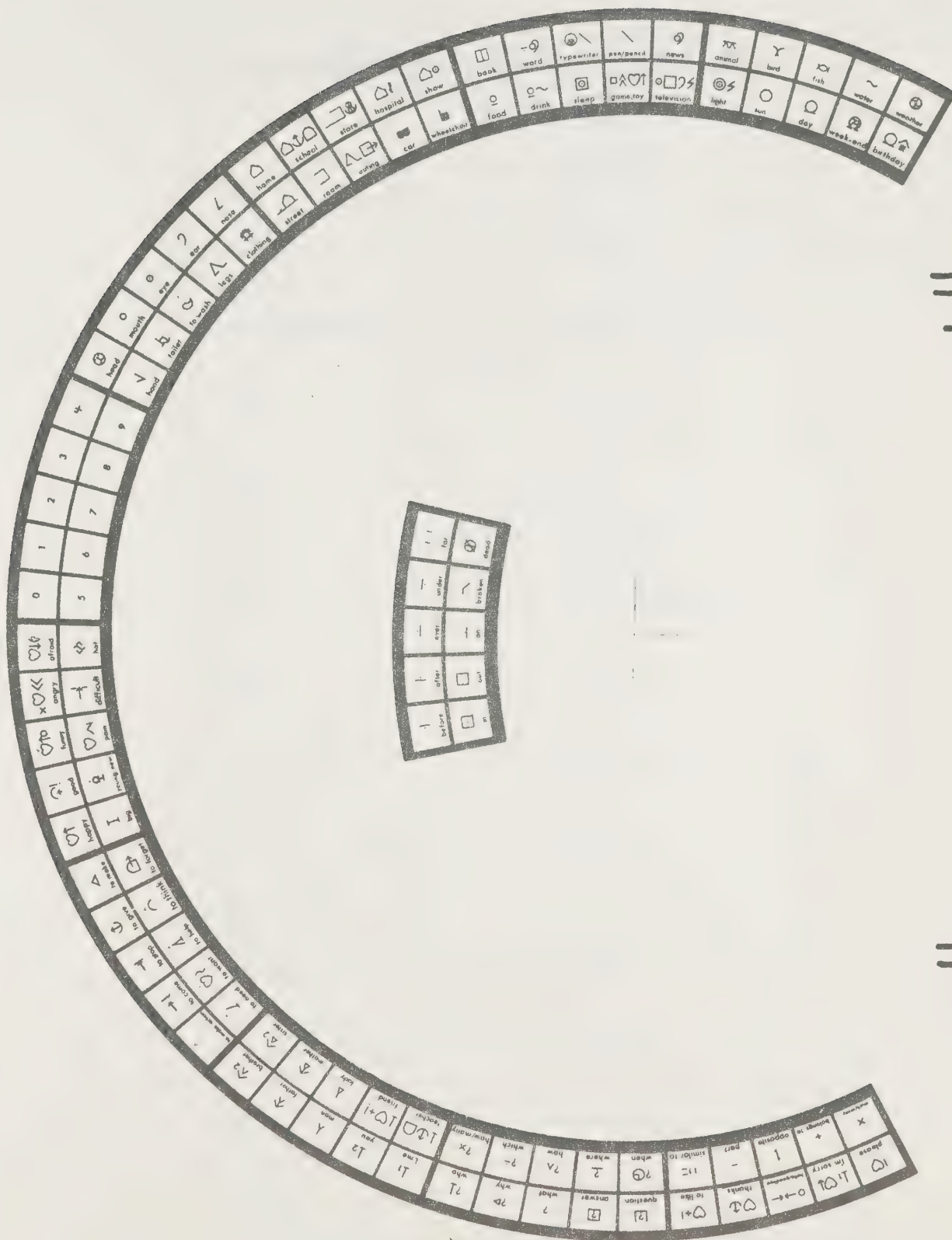
3. parts of the body - E4

Dark Orange.....things of home and school - G1, G2, G3, G4, H1

Similar colouring scheme to be utilized on 100-symbol vocabulary.



# APPENDIX C



if  
yes

if  
no





## APPENDIX D

### First 30 Symbols - displayed on wooden tray

size 2 $\frac{1}{2}$ " x 2 $\frac{1}{2}$ "







yes	hands
no	legs
hello/goodbye	toilet
man	food
lady	drink
father	to wash
mother	to make action
home	happy
animal	sad
I, me	angry
you	big
to like	little
to want	question
eye	sister
mouth	brother



## APPENDIX F

### Examples of Blissymbolics

Permission of Charles K. Bliss













  
 man    woman    roof    father    mother    married couple

















  
 eye    mouth    nose    ear    hand    brain    legs

















  
 to see    visual    clear (see through)    awake (eye open)    asleep (eye closed)    picture    to seem



  
 look out!    watch    search

				
home	street	backyard	door	room
				
stairs	floor	window	cupboard	wall

F<sub>3</sub>

				
question	answer	what	why	who
				
when	where	how	which	how/many

A<sub>2</sub>





## HOW TO DRAW BLISS SYMBOLS.

In order to draw symbols in their proper size relation it makes it much easier if one remembers that each symbol fits into a basic square. The square can be divided into halves, quarters and eighths.

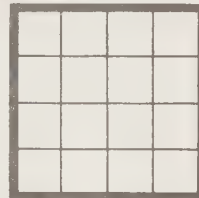
It is of great assistance if you start with pre-lined graph paper in drawing symbols. This type of paper helps keep the right size relationship in drawing, which is essential, otherwise the symbols can lose their proper meaning and the reader can get confused.

Four squares to the inch



### SOME BASICS ABOUT SYMBOLS.

A BOX or enclosure uses one complete square.



a PAPER or PAGE is half a square.



A BOOK has a line through the middle.

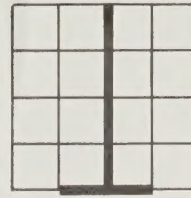


A THING quarter of a square in the middle.





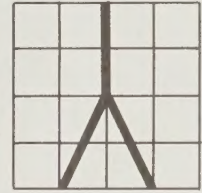
A MAN is not simply a HUMAN with pants or a WOMAN with a skirt. A HUMAN is an upright person.



This is the symbol of  
ACTION.



MAN is a human  
being of action.



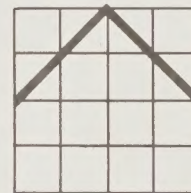
This is the symbol of  
CREATION.



A WOMAN is a human  
being of creation.

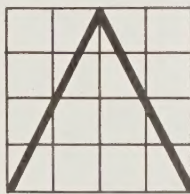


A ROOF, COVER, or SHELTER.



The Importance of Position:

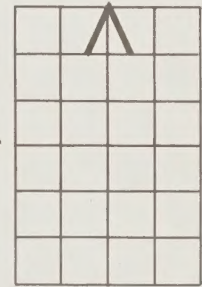
ACTION



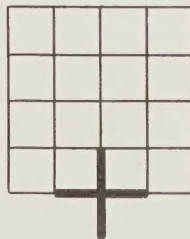
TO ACT



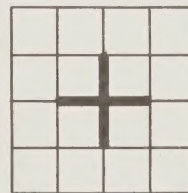
Use the  
action  
indicator  
to make  
a verb.



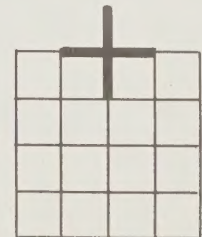
Belong to



And  
Too  
Also

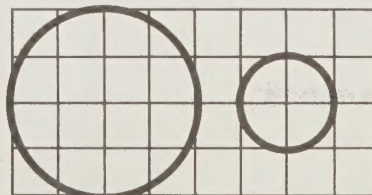


With



Importance of Size:

SUN

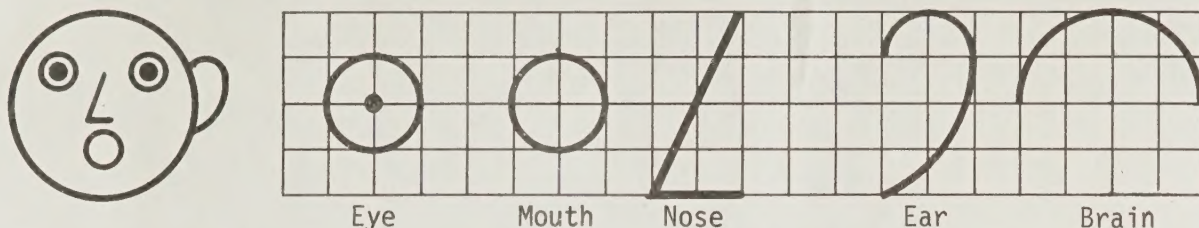


MOUTH

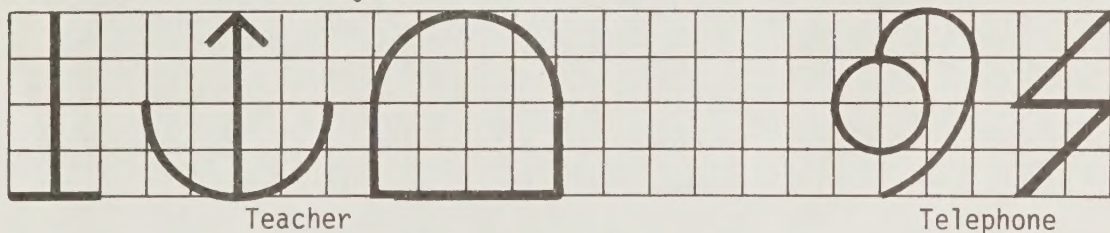




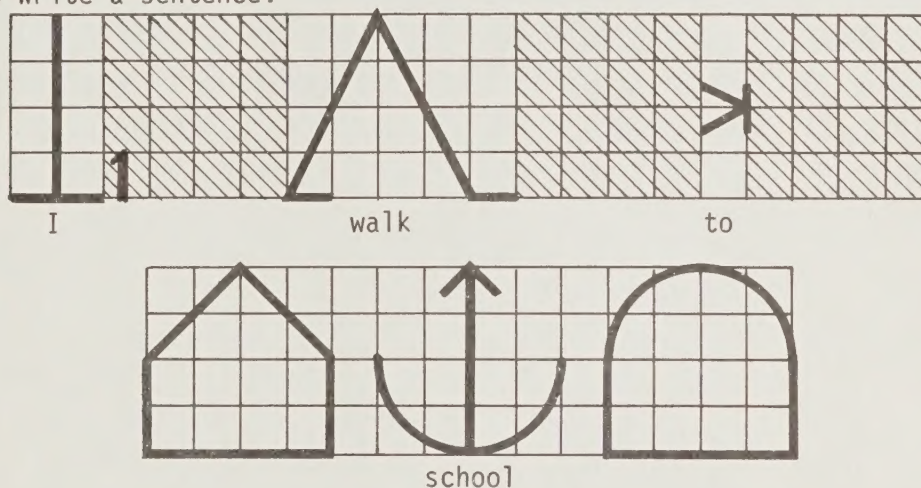
Symbols are easy to remember:



How to write Combined Symbols:



How to write a sentence:



In between each symbol is a space equal to 1/4 of a full square.

Between two symbols, no matter what their size, there must be one full square left blank to indicate the separate words.

The right spacing is important.

When writing a great many symbols it is worthwhile having a template made up.

This template can be made out of thin plastic or celluloid and the symbol components should have a size relation to the graph paper; for example four squares to the inch or smaller or larger as desired.

When drawing symbols to be used for instruction or attaching to a display board, they should always retain their proper size relationship and be drawn with an exactness that free hand drawing cannot attain.

